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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,079	04/06/2001	Ralph Weisheit	BMID9818US	2314

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EXAMINER	
GUO, LYNDA T	
ART UNIT	PAPER NUMBER
1651	6

DATE MAILED: 11/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

CASE COPY

Office Action Summary	Application No.	Applicant(s)	
	09/807,079	WEISHEIT ET AL.	
	Examiner	Art Unit	
	Lynda T Guo	1651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 April 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Status of the Application

The IDS PTO-1449 (Paper No. 3) received on 6 April 2001, has been entered.

Claims 12-29 are pending in the present application.

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 12-29 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 8-24 of copending Application No. 09/806,983. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present application claims contains the limitation of determining a second optical measurement.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Specification

The disclosure is objected to because of the following informalities:

1. The various sections of the present Specification are not clearly labeled or separated by the appropriate headings. Below are the guidelines for the proper arrangement of a specification.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
(e) BACKGROUND OF THE INVENTION.
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(f) BRIEF SUMMARY OF THE INVENTION.
(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(h) DETAILED DESCRIPTION OF THE INVENTION.
(i) CLAIM OR CLAIMS (commencing on a separate sheet).
(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

2. The first paragraph of Example 1 on page 10 of the present Specification lacks a period (.) at the end of the paragraph. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 12-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claims 12 and 28, the preamble is directed to a method of eliminating interference, however the last step of combining measurements is not seen to perform a function of the preamble.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. NOTE: The publication date for WO98/02570 is 22 January 1998. The publication date for USPN 6013467 is 11 January 2000. The two documents are believed to be equivalent, so for the purposes of this office action, the English version (USPN 6013467) is relied upon.

7. Claims 12-29 are rejected under 35 U.S.C. 102(a) as being anticipated by Siedel et al (USPN 6,013,467).

Claims 12, 24 and 28 are drawn to a method of eliminating hemoglobin interference in the determination of alkaline phosphatase, the method comprising: adding 4-nitrophenyl phosphate, obtaining a first optical measurement (absorbance) at 450 ± 10 nm, obtaining a second optical measurement at another wavelength (e.g. 480 ± 10 nm, 546 ± 10 nm, or 575 ± 10 nm, combining the two optical measurements. Further limitations of the present invention, as recited in the dependent claims 13-23, 25-27 and 29, include: the second optical measurement is carried out at 570 nm, sample tested is plasma, serum or blood substitutes (e.g. derivatized hemoglobin, polymerized hemoglobin, modified hemoglobin, cross-linked hemoglobin, human hemoglobin, bovine hemoglobin, natural hemoglobin, synthetic or recombinant hemoglobin, or diaspirin-cross-linked hemoglobin); and hemoglobin concentration can be up to about 3000 mg/dl or 6500 mg/dl.

Siedel et al discloses a method for the elimination of interferences caused by free hemoglobin in the determination of an analyte, including alkaline phosphatase, in a sample of blood, serum, plasma or blood substitute based on hemoglobin derivatives by optical measurement (Abstract, lines 1-4; column 1, first paragraph; column 2, lines 30-34). Siedel further defines "free hemoglobin" as "modified or intramolecularly or intermolecularly cross-linked or polymerized derivatives of hemoglobins especially of human hemoglobin or bovine hemoglobin e.g. DCL-hemoglobin (diaspirin cross-linked hemoglobin) as well as recombinant hemoglobin muteins" (Column 2, lines 35-41). Additionally, Siedel recites that the method is carried out, "at at least one measurement wavelength" and "with optical measurements in the measurement wavelength ranges of about 380-450 nm and in particular of 400-420 nm or/**and** 520-590" (Column 2, lines 25-28) and the substrate used with alkaline phosphatase is 4-nitrophenyl phosphate (column 4,

lines 12-14). Siedel further recognizes that some test samples, for example those containing blood substitutes, can have concentration of hemoglobin of **at least** 2000mg/dl (column 1, lines 39-41). Siedel discloses that for samples with high hemoglobin concentration, a blank value correction can be carried out (Column 3, lines 27-38). The invention of Siedel is a two-step test in which hemolytic/hemoglobin interference is determined in the first step (i.e. in a "pre-reaction") and the optical measurement is carried after the second step where the substrate is added (see Column 10, Claim 10). Based on the Figures provided, optical measurements were carried out at about 1 minute and later (See Figures 1-7).

The disclosure by Siedel, et al., clearly anticipates all the limitations of the present invention (Claims 12-29), thus, the said Claims are accordingly rejected.

8. NOTE: The publication date for WO97/45732 is 4 December 1997. The publication date for USPN 6207459 B1 is 27 March 2001. The two documents are believed to be equivalent, so for the purposes of this office action, the English version (USPN 6207459 B1) is relied upon.

9. Claims 16-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Weisheit, et al. (USPN 6,207,459 B1).

Claims 16-23 are drawn to the sample comprising plasma or serum, further comprising blood substitute with hemoglobin concentrations up to about 3000 mg/dl or 6500 mg/dl. (See above for the specifics regarding the blood substitute.)

In USPN 6,207,459 B1, Weisheit discloses of a method for the determination of an analyte, for a sample containing free hemoglobin, by optical measurement after correcting for hemoglobin interference of **at lease** 1000mg/dl. Samples for analysis include serum, plasma or samples

containing blood substitute, which is further defined to be derivatized, polymerized, modified or cross-linked derivatives of hemoglobin, in particular human or bovine hemoglobin as well as recombinantly produced hemoglobin. (See Abstract, entire paragraph; Column 1, lines 31-33, 49-52; Column 2, lines 21-23, 25-28, 31-32; Column 3, lines 16-25.)

The limitations of Claims 16-234 are, therefore, encompassed in Weisheit's disclosure and are thus rejected.

10. Claims 12-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Weisheit et al. (WO97/45733 – English Translation).

The limitations of Claims 12-29 are recited above.

Note: Page references are to the English translation document.

Weisheit et al. in WO97/45733 discloses a process to eliminate hemoglobin interference in analyzing a sample, by using optical bichromatic measurement (i.e. with a main and a secondary wavelength). (See page 2, paragraph 1.) (Said process eliminates interference caused by native hemoglobin or by blood substitutes based on synthetic Hb compounds or Hb analogs in samples containing serum, plasma or blood substitutes. Examples of blood substitutes include derivatized, polymerized, modified or cross-linked derivatives of hemoglobin, particularly of human or bovine hemoglobin, such as diaspirin cross-linked hemoglobin and recombinantly produced hemoglobin. (See page 4, paragraph 2, lines 9-11; pages 5, last paragraph to page 6 lines 1-6.) The process, as recited by Weisheit, uses two wavelengths, the first wavelength is where analyte absorbs while the second wavelength used is in the absorption bands of hemoglobin (wavelength of over 475 nm), which is in the range of **546 ± 10 nm** or **570 ± 10 nm**.

Measurement of the increase or decrease (i.e. "change in absorbance determinations") of in analyte sample is done at the main wavelength. (See page 4, lines 21-24, page 5, lines 1-2 and 18-20. Also see Claims 1, 3, 4, 10 and 11 on pages 17-19.)

The limitations of Claims 16-234 are, therefore, encompassed in Weisheit's disclosure and are thus rejected.

Conclusion

The following are references not relied upon for this present Office Action, but are cited of interest:

Jay and Provasek (Clinical Chemistry, 39(9), 1993) teach that "rate blanking" provides a good approximation of alkaline phosphatase activity in the presence of hemolysis.

Chance, et al. (Clinical Chemistry, 46(9), 2000) determined the mechanism of interference of hemoglobin in alkaline phosphatase assays and teaches that interference from hemoglobin can be avoided by measurement at 450 nm.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynda T Guo whose telephone number is (703) 605-1200. The examiner can normally be reached on Mon - Fri (7:00am - 4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G Wityshyn can be reached on (703) 308-4743. The fax phone numbers for

the organization where this application or proceeding is assigned are (703) 305-3014 for regular communications and (703) 872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

Lynda T Guo
Patent Examiner
October 31, 2002

RALPH GITOMER
PRIMARY EXAMINER
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